| | Application No. | Applicant(s) |
|---|---|---|
| ***Notice of Allowability*** | 09/560,269 | NOLTE, BARRY M. |
| | Examiner | Art Unit |
| | J. Derek Rutten | 2192 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--*

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *2/13/07 amendment*.

2. ☒ The allowed claim(s) is/are *1,5,7-16,20,22-31,35 and 37-45*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None  of the:

       1. ☐ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

       3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

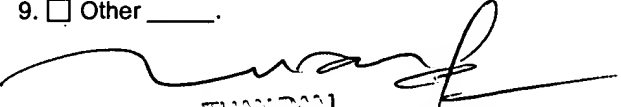    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached

       1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

    **Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☒ Interview Summary (PTO-413)
Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

TUAN DAM
SUPERVISORY PATENT EXAMINER

## DETAILED ACTION

1.      This action is in response to Applicant's submission filed 2/13/07, responding to the

11/13/06 Office action which detailed the rejection of claims 1, 5, 7-16, 20, 22-31, 35 and 37-45.

Claims 1, 5, 12, 13, 16, 27, 31, 35, 42, and 43 have been amended. Claims 1, 5, 7-16, 20, 22-31,

35 and 37-45 remain pending in the application and have been fully considered by the examiner.

### *Response to Amendment/Arguments*

2.      Applicant's arguments, see sections I-IV on pages 13-14, filed 2/13/07, with respect to

the objections to the drawings, the specification, and the claims, have been fully considered and

are persuasive. The objections of the drawings, the specification and the claims have been

withdrawn.

3.      Applicant's arguments, see section V on pages 14-15, filed 2/13/07, with respect to the

rejection of claims 1, 8, 16, 23, 31, and 38 under 35 U.S.C. § 101 have been fully considered and

are persuasive. The rejection of claims 1, 8, 16, 23, 31, and 38 under 35 U.S.C. § 101 has been

withdrawn.

4.      Applicant's arguments, see section VI on pages 15-16, filed 2/13/07, with respect to the

rejection of claims 1, 5, 7-15, 31, 35, and 37-41 under 35 U.S.C. § 112, 1$^{st}$ paragraph, have been

fully considered and are persuasive. The rejection of claims 1, 5, 7-15, 31, 35, and 37-41 under

U.S.C. § 112, 1$^{st}$ paragraph, has been withdrawn.

5.      Applicant's arguments, see section VII on pages 16-18 and 20 (especially pages 16-17),

filed 2/13/07, with respect to the rejection of claims 1, 5, 7-15, 31, 35, and 37-41 under 35

U.S.C. § 103(a) have been fully considered and are persuasive. The prior art of record does not

adequately teach handling of a tail merge instrumentation scenario. It is noted that the features

upon which applicant relies (i.e., "properly instrument tail merged code" – see top of page 17)

are not recited in the rejected claims. Although the claims are interpreted in light of the

specification, limitations from the specification are not read into the claims. See *In re Van

Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). However, an examiner's amendment

to the claims is presented below in order to recite such limitations.

6.      Applicant's arguments, see section VII on pages 18-21, filed 2/13/07, with respect to the

rejection of claims 16, 27, and 42 under 35 U.S.C. § 103(a), have been fully considered but are

not persuasive. It is noted that the features upon which applicant relies (i.e., the proper

instrumentation of tail merged code) are not recited in the rejected claims. Although the claims

are interpreted in light of the specification, limitations from the specification are not read into the

claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Claims 16, 20,

22-30, and 42-45 are not directed to handling the instrumentation of a tail merge scenario.

Instead, these claims are directed to eliminating probes before and after function calls, which has

nothing to do with a tail merge. As admitted by Applicant, prior art of record Angel teaches the

use of probes at the exit and entry point of a function, which along with the teaching of a tail

merge by Muchnick, results in the invention of independent claims 16, 27, and 42. However, an

examiner's amendment to the claims is presented below in order to recite limitations regarding

the tail merge scenario.

## EXAMINER'S AMENDMENT

7.      An examiner's amendment to the record appears below. Should the changes and/or

additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR

1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the

payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with

Ryan T. Grace, Reg. No. 52,956 on 3/7/2007. This examiner's amendment is necessary so that

the claims properly present the instrumentation of program code that contains a tail merge as

described on page 11 lines 7-10 and 23-26 of the specification.

The application has been amended as follows:


*--Begin Examiner's Amendment--*

Please amend claims 1, 12, 16, 27, 31, and 42 as follows:


1. (Currently amended) A computer-implemented method for collecting information

relating to execution of an application including at least one tail merged portion, the method

being executed on a computer, the method comprising:

determining a set of probe locations in the application, wherein determining a set of

probe locations includes:

        identifying a probe location at a beginning of a calling function,

        identifying a probe location at an end of the calling function,

        identifying a probe location at a beginning of a first called function,

identifying a probe location at an end of the first called function,

identifying a probe location in the calling function at the beginning of a call to the

first function,

identifying a probe location in the calling function at the end of the call to the first

function,

identifying a probe location ~~at a beginning of~~ prior to a jump to a second function,

identifying a probe location ~~at an end of~~ after the jump to the second function,

and

eliminating the probe location at the end of the first called function and

eliminating the probe location ~~at the end of~~ after the jump to the second function when

the first called function includes [[a]] the jump to the second function and when the

second function includes a return to the calling function;

inserting probes in the identified locations that are not eliminated: and

collecting non-redundant information relating to the execution of the application using

the inserted probes.


12. (Currently amended) A computer-readable storage medium having an application

including computer-executable instructions including at least one tail merged portion, the

computer-executable instructions comprising:

determining a set of probe locations in the application, wherein determining a set of

probe locations includes:

identifying a probe location at a beginning of a calling function,

identifying a probe location at an end of the calling function,

identifying a probe location at a beginning of a first called function,

identifying a probe location at an end of the first called function,

identifying a probe location in the calling function at the beginning of a call to the

first function,

identifying a probe location in the calling function at the end of the call to the first

function,

identifying a probe location ~~at a beginning of~~ prior to a jump to a second function,

identifying a probe location ~~at an end of~~ after the jump to the second function,

and

eliminating the probe location at the end of the first called function and

eliminating the probe location ~~at the end of~~ after the jump to the second function when

the first called function includes [[a]] the jump to the second function and when the

second function includes a return to the calling function;

inserting probes in the identified locations that are not eliminated: and

collecting non-redundant information relating to the execution of the application using

the inserted probes.


16. (Currently amended) A computer-implemented method for collecting information

relating to execution of an application including at least one tail merged portion, the method

being executed on a computer, the method comprising:

determining a set of probe locations in the application, wherein determining a set of

probe locations includes:

identifying a probe location at a beginning of a calling function,

identifying a probe location at an end of the calling function,

identifying a probe location at a beginning of a first called function,

identifying a probe location at an end of the first called function,

identifying a probe location in the calling function at the beginning of a call to the

first called function,

identifying a probe location in the calling function al the end of the call to the first

called function,

identifying a probe location prior to a jump to a second function,

identifying a probe location after the jump to the second function, and

determining ~~whether~~ that the first called function is ~~one of:~~ an internal called

function ~~and an external called function,~~

eliminating the probe location in the calling function at the beginning of the call

to the first called function ~~and eliminating the probe location in the calling function at the~~

~~end of the call to the first called function when the first called function is an internal~~

~~called function;~~

eliminating the probe location at the end of the first called function and

eliminating the probe location after the jump to the second function when the first called

function includes the jump to the second function and when the second function includes

a return to the calling function;

inserting probes in the identified locations that are not eliminated; and

collecting non-redundant information relating to the execution of the application using

the inserted probes.


27. (Currently amended) A computer-readable storage medium having an application

including computer-executable instructions including at least one tail merged portion, the

computer-executable instructions comprising:

determining a set of probe locations in the application, wherein determining a set of

probe locations includes:

identifying a probe location at a beginning of a calling function,

identifying a probe location at an end of the calling function,

identifying a probe location at a beginning of a first called function,

identifying a probe location at an end of the first called function,

identifying a probe location in the calling function at the beginning of a call to the

first called function,

identifying a probe location in the calling function al the end of the call to the first

called function,

identifying a probe location prior to a jump to a second function,

identifying a probe location after the jump to the second function, and

determining ~~whether~~ that the first called function is ~~one of:~~ an internal called

function ~~and an external called function~~,

eliminating the probe location in the calling function at the beginning of the call

to the first called function ~~and eliminating the probe location in the calling function at the~~

~~end of the call to the first called function when the first called function is an internal~~

~~called function~~;

<u>eliminating the probe location at the end of the first called function and</u>

<u>eliminating the probe location after the jump to the second function when the first called</u>

<u>function includes the jump to the second function and when the second function includes</u>

<u>a return to the calling function</u>;

inserting probes in the identified locations that are not eliminated; and

collecting non-redundant information relating to the execution of the application using

the inserted probes.


31. (Currently amended) A computer system comprising a processor that is arranged to

execute computer-executable instructions including at least one tail merged portion, the

computer-executable instructions comprising:

determining a set of probe locations in the application, wherein determining a set of

probe locations includes:

identifying a probe location at a beginning of a calling function,

identifying a probe location at an end of the calling function,

identifying a probe location at a beginning of a first called function,

identifying a probe location at an end of the first called function,

identifying a probe location in the calling function at the beginning of a call to the

first function,

identifying a probe location in the calling function at the end of the call to the first

function,

identifying a probe location at a beginning of prior to a jump to a second function,

identifying a probe location at an end of after the jump to the second function,

and

eliminating the probe location at the end of the first called function and

eliminating the probe location at the end of after the jump to the second function when

the first called function includes [[a]] the jump to the second function and when the

second function includes a return to the calling function;

inserting probes in the identified locations that are not eliminated: and

collecting non-redundant information relating to the execution of the application using

the inserted probes.

42. (Currently amended) A computer system comprising a processor that is arranged to

execute computer-executable instructions including at least one tail merged portion, the

computer-executable instructions comprising:

determining a set of probe locations in the application, wherein determining a set of

probe locations includes:

identifying a probe location at a beginning of a calling function,

identifying a probe location at an end of the calling function,

identifying a probe location at a beginning of a first called function,

identifying a probe location at an end of the first called function,

identifying a probe location in the calling function at the beginning of a call to the

first called function,

identifying a probe location in the calling function al the end of the call to the first

called function,

identifying a probe location prior to a jump to a second function,

identifying a probe location after the jump to the second function, and

determining ~~whether~~ that the first called function is ~~one of:~~ an internal called

function ~~and an external called function~~,

eliminating the probe location in the calling function at the beginning of the call

to the first called function ~~and eliminating the probe location in the calling function at the~~

~~end of the call to the first called function when the first called function is an internal~~

~~called function;~~

eliminating the probe location at the end of the first called function and

eliminating the probe location after the jump to the second function when the first called

function includes the jump to the second function and when the second function includes

a return to the calling function;

inserting probes in the identified locations that are not eliminated; and

collecting non-redundant information relating to the execution of the application using the

inserted probes.

--*End Examiner's Amendment*--

### *Allowable Subject Matter*

8.      Claims 1, 5, 7-16, 20, 22-31, 35, and 37-45 are allowed.

9.      The following is an examiner's statement of reasons for allowance:

The examiner indicated that this application would be in condition for allowance if the

independent claims 1, 12, 16, 27, 31, and 42 are amended to include the features of a proper

instrumentation of a tail merge (supported on page 11 lines 7-10 and 23-26 of the specification)

including insertion of probes: in a calling function at the end of the call to a first function; and

prior to a jump to a second function.  Applicant argued that this feature was not addressed by the

prior art of record (see pages 16-17, filed 2/13/07).  The above features, taken in combination

with all remaining features of the independent claim are not taught or suggested by the prior art

of record.  The applicant agreed to amend the independent claims 1, 12, 16, 27, 31, and 42 as

indicated by the examiner.  The distinctions provided by the independent claims apply equally to

all dependent claims.  Thus all pending claims 1, 5, 7-16, 20, 22-31, 35, and 37-45 are allowed.

Any comments considered necessary by applicant must be submitted no later than the

payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee.  Such submissions should be clearly labeled "Comments on Statement of Reasons for

Allowance."

## *Conclusion*

10.    Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Derek Rutten whose telephone number is (571)272-3703. The examiner can normally be reached on M-F 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571)272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jdr

TUAN DAM
SUPERVISORY PATENT EXAMINER